

What is claimed is:

1. A method for removing contaminants from water, the method comprising:
  - a. driving an electric generator by means of a thermal cycle engine for generating electrical power capacity, the thermal cycle engine including a burner for combusting a fuel;
  - b. employing at least a portion of the electrical power capacity of the electric generator for powering a water purification unit;
  - c. supplying source water to an input of the water purification unit; and
  - d. conveying heat output of the thermal cycle engine for supplying heat to the water purification unit to reduce the amount of electrical power required to purify the water.
2. A method for removing contaminants from water in accordance with claim 1, wherein the step of conveying exhaust heat output further includes transferring heat from an exhaust gas of the burner to source water supplied to the water purification unit.
3. A method for removing contaminants from water in accordance with claim 1, wherein the step of conveying exhaust heat output further includes heating an enclosure surrounding the water purification unit for reducing thermal losses.
4. A method in accordance with claim 1, wherein the method further includes the steps:
  - e. vaporizing the untreated water; and
  - f. condensing the vaporized water into a distilled water product.
5. A method for removing contaminants from water in accordance with claim 4, wherein the step of conveying exhaust heat output further includes transferring heat from an exhaust gas of the burner to source water supplied to the water purification unit.
6. A method for removing contaminants from water in accordance with claim 4, wherein the step of conveying exhaust heat output further includes heating an enclosure surrounding the water purification unit for reducing thermal losses.
7. A method for concentrating contaminants removed from water, the method comprising:
  - a. driving an electric generator by means of a thermal cycle engine for generating electrical power capacity, the thermal cycle engine including a burner for combusting a fuel;
  - b. employing at least a portion of the electrical power capacity of the electric generator for powering a water purification unit;

- c. supplying source water to an input of the water purification unit;
  - d. conveying heat output of the thermal cycle engine for supplying heat to the water purification unit;
  - e. vaporizing the untreated water; and
  - 5 f. collecting contaminants removed from the water.
8. A system for purifying water, the system comprising:
- a. a thermal cycle engine including a burner for combusting a fuel for driving an electric generator to generate electrical power capacity;
  - b. a water purification unit powered by the electric generator;
  - 10 c. an input for receiving source water for distillation by the water purification unit; and
  - d. a conduit for conveying heat output of the thermal cycle engine to the water purification unit.
9. The system of claim 8, wherein the conduit is a hose for conveying heated gas
- 15 from the burner of the thermal cycle engine to the water purification unit.
10. The system of claim 8, further comprising a heat exchanger in a path of the source water from the input to the water purification unit.
11. The system of claim 8, wherein the thermal cycle engine is an external combustion engine.
- 20 12. The system of claim 8, wherein the thermal cycle engine is a Stirling cycle engine.
13. A monitoring system for distributed utilities, the monitoring system comprising:
- a. a generation device for converting an available resource to a desired utility;
  - b. an input sensor for measuring input to the generation device;
  - c. an output sensor for measuring consumption of output from the generation
  - 25 device;
  - d. a controller for concatenating measured input and consumption of output on the basis of the input and output sensors.
14. A monitoring system according to claim 13, wherein the generation device is a water purifier.
- 30 15. A monitoring system according to claim 14, wherein the input sensor is a flowrate monitor.
16. A monitoring system according to claim 14, wherein the output sensor includes a water quality sensor including at least one of a turbidity, conductivity, and temperature sensor.

17. A monitoring system according to claim 13, wherein the generation device is an electrical power generator.
18. A monitoring system according to claim 13, wherein the input sensor includes a fuel consumption rate monitor.
- 5 19. A monitoring system according to claim 13, further comprising a telemetry module for communicating measured input and output parameters to a remote site.
20. A monitoring system according to claim 13, further including a remote actuator for varying operating parameters of the generator based on remotely received instructions.
- 10 21. A monitoring system according to claim 13, further including a self-locating device having an output indicative of the location of the monitoring system.
22. A monitoring system according to claim 13, wherein monitored characteristics of input and output depend upon the location of the monitoring system.
23. A distributed network of utilities, including at least one of a source of purified  
15 water and a source of electrical power, the distributed network comprising: {  
a. a plurality of generators for converting a resource into a useful utility;  
b. a plurality of input sensors for measuring inputs to each generator;  
c. a plurality of output sensor for measuring consumption of output from each  
generator;  
20 d. a telemetry transmitter for transmitting input and output parameters of a specified generator; and  
e. a remote processor for receiving input and output parameters from a plurality of utility generators.
24. A method for providing distributed utilities, the method comprising:  
25 a. providing a generator to a user; v  
b. monitoring at least one index of generator usage to supply a utility; and  
c. charging the user on the basis of the index of generator usage.